

**Abstract**

Apparatus for providing well-matched source and sink currents includes a number of parallel current paths, a first of which drives a first  
5 current mirror to mirror current to second and third of the current paths. The second current path provides well-matched source and sink currents as outputs, and the third current path is matched to the second. The fourth and fifth current paths each comprise a transistor of a current steering mechanism and a bias transistor. Using a reference voltage, and feedback  
10 from the circuit, the fourth and fifth current paths steer current between the first, second and third current paths. A second current mirror is driven by a bias current to mirror the bias current to each of the number of parallel current paths. Other methods and apparatus are also disclosed.